REVISIONS

LTR	DESCRIPTION	DATE	APPROVAL
G	SEE REV PBK9C Replaces Rev F with change SH 1, 9, 10	91-03-29	G.D.H. D.Cato
H	Modified by FAA to reflect new vendor changes	10-08-17	A. Nguyen (FAA)

Unless otherwise specified dimensions are in inches
DO NOT SCALE

Tolerances
Decimals: 2 places + - .02; 3 places + - .005
Angles: + -

SELECTED ITEM DRAWING

DRAWING TO BE CHANGED ONLY

BY APPROVAL OF PARTS ENGINEERING

LATEST REVLTR																									
SH NO	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
LATEST REVLTR	G	C	D	B	C	D	E	B	G	G															
SH NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

SHEET REVISION STATUS

CONTRACT NO. DTFA01-83-C-20027
ORIGINAL DATE APVD 84/11/01

WESTINGHOUSE ELECTRIC CORPORATION
DEFENSE & ELECTRONIC SYSTEMS CENTER
BALTIMORE, MD., U.S.A. 21203

DRAWN BY	AUTH
R. Haynes	J40608
CHKD	PARTS ENGR R.T. Rhyne
APVD J.F. McBride	APVD P.I. Hightower

DESIGN ACTIVITY APPROVAL

PROCURING ACTIVITY APPROVAL

FED. SUP. CLASS 5935

Connector, Receptacle, Electrical

SIZE	CAGE CODE	DWG. NO.
A	97942	645A748

SCALE: NONE | WEIGHT TBD | SHEET 1 OF 10

Westinghouse Part Number	Manufacturer's Part Number Vernitron	
645A748H01	56000401000B	
645A748H02	56000501000B	
645A748H03	56000601000B	
645A748H04	56000701000B	
645A748H05	56000101000B	
645A748H06	56000301000B	
645A748H07	56001001000B	
645A748H08	56001101000B	
645A748H09	56001201000B	
645A748H10	56001301000B	

Approved Manufacturers Name	CAGE CODE (H4/H8)
Vernitron Corporation	13150
Armel Electronics	91663

SIZE A	CAGE CODE 97942	DWG NO. 645A748
SCALE: NONE	REV H	SHEET 2

Westinghouse Part Number	Figure	Contact Current Rating (amps)	Voltage Rating (volts)	Contact style	Contacts in positions	Positions closed by plugs	Contact Material Paragraph
645A748H01	1	45	250	blade	1,2,3	4,5	3.4.4,3.4.5
645A748H02	2	45	250	socket	1,2,3	4,5	3.4.3
645A748H03	1	45	250	blade	1,2,3,4	5	3.4.4,3.4.5
645A748H04	2	45	250	socket	1,2,3,4	5	3.4.3
645A748H05	1	45	250	blade	1,2,3,4,5	-	3.4.4,3.4.5
645A748H06	2	45	250	socket	1,2,3,4,5	-	3.4.3
645A748H07	1	60	250	blade	1,3,5	2,4	3.4.4
645A748H08	2	60	250	socket	1,3,5	2,4	3.4.3
645A748H09	1	60	250	blade	1,2,3,4,5	-	3.4.4
645A748H10	2	60	250	socket	1,2,3,4,5	-	3.4.3

1. SCOPE.

This drawing delineates the requirements for high voltage, high amperage connectors. These connectors are not designed to withstand adverse environmental conditions. Requirements which are specified herein but which are not specified or controlled in the manufacturer's published specification are indicated by an asterisk.(*)

2. APPLICABLE DOCUMENTS

The following documents of the revision indicated shall form a part of this document to the extent specified herein. Documents listed without revision status shall be those in effect on the latest revision date of this document (see 3.1).

GOVERNMENT AND NATIONALLY RECOGNIZED PUBLICATIONS

DOD-D-1000	ENGINEERING DRAWINGS
H4/H8	COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CATALOGING HANDBOOK

OTHER PUBLICATIONS

A. SCHULMAN, INC. Market St. Akron, Ohio	POLYMAN (product bulletin # 509)

3. REQUIREMENTS

3.1 Drawing Precedence. This drawing takes precedence over documents referred to herein and shall be interpreted in accordance with DOD-D-1000. A later revision of any document listed in Section 2 without a specific revision letter may be used if requirements of the later revision are not degraded below those specified in the earlier revision.

3.2 Electrical

3.2.1 Current and voltage ratings. The ratings shall be as specified in the tabulation.

*3.2.2 Dielectric withstanding voltage. The part shall have a dielectric withstanding voltage rating of 1000 Vrms at a frequency of 60 Hz at sea level when tested in accordance with paragraph 4.4.2. During the test there shall be no breakdown or flashover.

*3.2.3 Insulation resistance. Insulation resistance shall be not less than 5000 megohms and shall be measured as specified in paragraph 4.4.3.

*3.2.4 Contact resistance. The maximum voltage drop across a mated pair of contacts shall be 450 millivolts when measured as specified in 4.4.4.

3.3 Mechanical.

3.3.1 Physical Dimensions. The connector shall meet the physical dimensions specified in the figure listed in the tabulation..

3.3.1.1 Contact Arrangement. Contact arrangement shall be as specified in the figure listed in the tabulation.

*3.3.2 Performance. The connector shall meet the contact engagement and separation force and contact retention specified in paragraphs 4.4.6 and 4.4.5 respectively.

3.4 Materials and Finishes.

3.4.2 Plastic materials. The insert material shall be a combination of PVC and ABS with a glass filler in accordance with A. Schulman, Inc. product number 509. ULTEM 2300, color black, is also acceptable material.

3.4.3 Beryllium Copper Contacts. Contacts for part numbers referencing this paragraph be constructed of beryllium copper.

3.4.4 Silver Copper Contacts. Contacts for part numbers referencing this paragraph be constructed of silver copper alloy.

3.4.5 Brass Contacts. Contacts for part numbers referencing this paragraph be constructed of brass.

3.4.6 Finish. The contacts shall be plated a minimum of 0.00020 inches of silver or silver copper alloy.

3.5 Environmental.

*3.5.1 Operating temperature range. The part shall meet the requirements of this drawing over an operating temperature range of -55C to 100C.

*3.5.2 Storage temperature range. The part shall suffer no adverse effects when stored over an operating temperature range of -55C to 100C.

*3.6 Identification and marking.

The parts shall be marked in accordance with the following information:

a. Westinghouse H4/H8 CAGE Code (97942) followed by a dash and the Westinghouse part number. Characters shall be .120 inch high minimum.
Example: 97942-645A748H01

b. The actual manufacturer's name, H4/H8 CAGE Code, trade mark or symbol.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection.

4.1.1 Manufacturer. The manufacturer is responsible for controlling the quality of his product and for offering to Westinghouse only those parts that conform to all specified requirements.

4.1.2 Westinghouse. Westinghouse reserves the right to perform any inspection deemed necessary to assure that parts conform to the specified requirements.

4.2 Qualification. Qualification inspection is not required.

*4.3 Certificate of Conformance. A certificate of conformance verifying that all requirements of section 3, have been satisfied. This certificate shall be signed by the manufacturer's responsible quality control manager or his agent and shall accompany each shipment.

4.4 Test methods.

4.4.1 Examination of product. Connectors shall be examined to verify that the materials, design, construction, physical dimensions, marking and workmanship are in accordance with the requirements of section 3.

4.4.2 Dielectric withstanding voltage. The test voltage shall be 1000 volts RMS at 60 Hz at sea level. This voltage shall be applied between adjacent mutually insulated contacts.

4.4.3 Insulation resistance. The test potential shall be the rated voltage. The voltage shall be applied between the contacts and the connector shell.

4.4.4 Contact resistance. With the contacts installed in the connector body and the connectors fully mated, the voltage drop of each mated pair shall be measured at an ambient temperature of 25C + 3C and at rated current for qualification testing. For acceptance testing, current can be at 10 amps. Voltage drop measurement connection points may be permanent connections.

4.4.5 Contact retention. The axial load applied shall be 75 pounds maximum. This applies to qualification testing only.

4.4.6 Contact engagement and separation force. Contact engagement force shall be 220 ounces maximum and contact separation force shall be 64 ounces minimum using a silver plated blade contact built to this specification as the test pin.

*5. PREPARATION FOR DELIVERY

5.1 Packaging and packing. Parts shall be packaged and packed in a manner to adequately protect against deterioration or physical damage during shipment to Westinghouse via common carrier.

5.2 Identification and marking.

5.2.1 Unit package. The unit package shall be legibly marked with the following information.

(A) Westinghouse H4/H8 CAGE Code (97942) followed by a dash and the Westinghouse part number.
Example 97942-645A748H01

(B) The actual manufacturer's name or H4/H8 CAGE Code.

5.2.2 Shipping container. The shipping container shall be legibly marked with the following information.

(A) Westinghouse part number.
(B) Manufacturer's name.
(C) Purchase order number.

6. NOTES

6.1 Approved sources. Identification of approved source(s) hereon is not to be construed as a guarantee of present or continued availability as a source of supply for the item described on this drawing.

SIZE	CAGE CODE	DWG NO.
A	97942	645A748
SCALE: NONE	REV E	SHEET 7

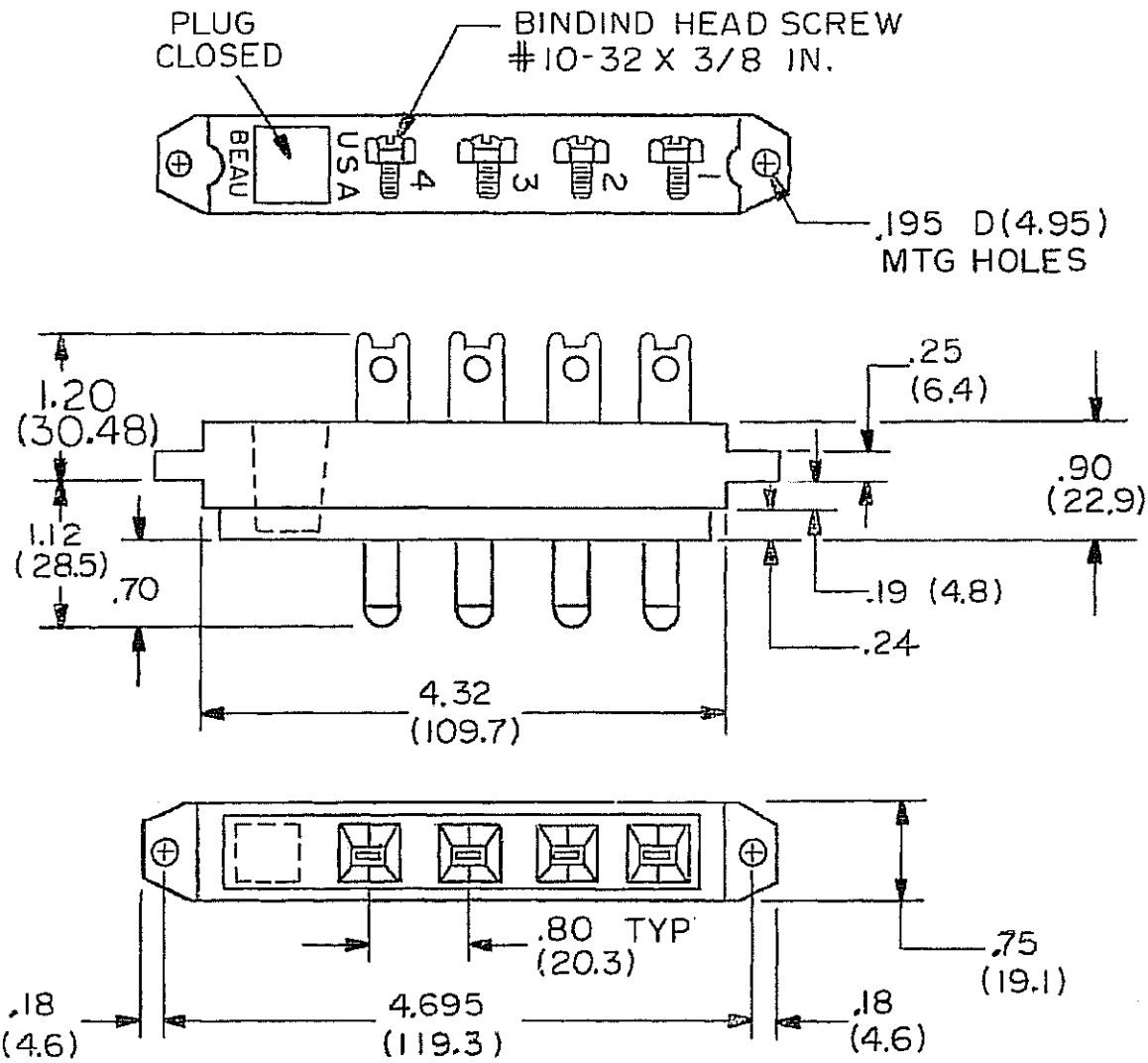
6.2 Device similarity. This drawing is for a special, specified and selected item that is similar to the generic type shown below. No guarantees are made of interchangeability.

Item number		Manufacturer's part number
H01	Vernitron Corporation	P-5603-AB-03
H02		S-5603-AB-BeCu-03
H03		P-5604-AB-03
H04		S-5604-AB-BeCu-03
H05		P-5605-AB-03
H06		S-5605-AB-BeCu-03
H07		P-5603-AB-AgCu-03
H08		P-5603-AB-BeCu-03
H09		P-5606-AB-AgCu-03
H10		P-5606-AB-BeCu-03

6.3 Westinghouse internal.

6.3.1 Receiving inspection, manufacturing. Parts shall be retained in their sealed containers until required for assembly.

6.3.2 Engineering. These parts are not recommended for use in equipment for military programs.

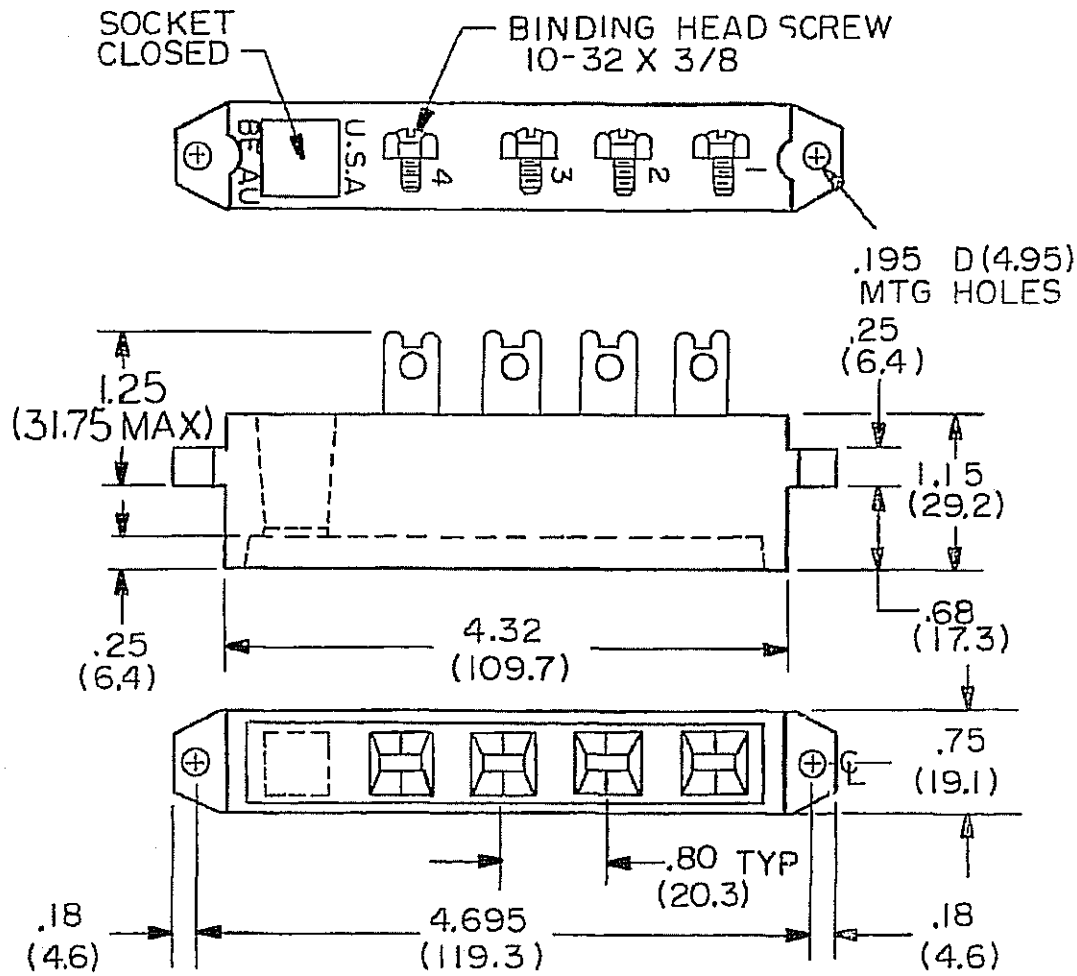


DIMENSIONS IN PARENTHESES ARE MILLIMETERS

FIGURE 1. CONNECTOR, MALE CONTACTS

NOTE 1 THE NUMBER OF CONTACTS AND THE NUMBER OF PLUGS INSTALLED IN THE CONNECTOR SHALL BE AS SHOWN IN THE TABULATION. THE LAYOUT SHOWN ABOVE IS FOR REFERENCE ONLY.

SIZE	FSCM NO.	DWG NO.
A	97942	645A748
SCALE NONE	REV G	SHEET 9



DIMENSIONS IN PARENTHESES ARE MILLIMETERS

FIGURE 2. CONNECTOR, FEMALE CONTACTS

NOTE 1. THE NUMBER OF CONTACTS AND THE NUMBER OF PLASTIC PLUGS INSTALLED IN THE CONNECTOR SHALL BE AS SHOWN IN THE TABULATION. THE LAYOUT SHOWN ABOVE IS FOR REFERENCE ONLY.

SIZE	FSCM NO.	DWG NO.
A	97942	645A748
SCALE NONE	REV G	SHEET 10